

**What is claimed is:**

1. A method, comprising  
determining a value for each feature in a group of features provided by a  
training data;  
5 eliminating at least one feature from the group by utilizing the value for  
each feature in the group;  
updating the value for each feature in the group based on a part of the  
training data that corresponds to the eliminated feature.
- 10 2. The method of claim 1, wherein the training data further comprises a  
plurality of training samples, each of the training samples corresponding to the  
group of features.
3. The method of claim 1, wherein determining the value comprises:  
15 computing a kernel data based on the training data;  
computing the value for each feature of the group based on the kernel data;  
and  
storing the kernel data in a buffer.
- 20 4. The method of claim 3, wherein computing the kernel data further  
comprises computing a matrix as the kernel data, each component of the matrix  
comprising a dot product of two of training samples provided by the training data.
5. The method of claims 1, wherein updating the value further comprises:

retrieving a kernel data from a buffer;  
updating the kernel data based on the part of the training data that  
corresponds to the eliminated features; and  
updating the value for each feature of the group based on the updated  
5 kernel data.

6. The method of claim 5, wherein updating the kernel data further  
comprises:  
subtracting a matrix from the kernel data, each component of the matrix  
10 comprising a dot product of two of training samples provided by the part of the  
training data.

7. The method of claim 1, wherein eliminating at least one feature  
comprises:  
15 computing a ranking criterion for each feature of the group based on the  
value for the each feature;  
eliminating the at least one feature with the minimum ranking criterion from  
the group; and  
recording the eliminated feature in a feature ranking list.

20 8. The method of claim 1, further comprising:  
repeating of eliminating the at least one feature from the group and  
updating the value for each feature of the group until a number of features in the  
group reaches a predetermined value.

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9. An apparatus, comprising:

a training logic to determine a value for each feature in a group of features provided by a training data; and

an eliminate logic to eliminate at least one feature from the group by

5 utilizing the value for each feature in the group,

wherein the training logic further updates the value for each feature in the group based on a part of the training data that corresponds to the eliminated feature.

10 10. The apparatus of claim 9, wherein the training data comprises a plurality of training samples, each of the training samples having the group of features.

11. The apparatus of claim 9, further comprising:

15 a decision logic to decide whether to repeat the elimination of the at least one features from the group and update of the value for each feature of the group until a number of features in the group reaches a predetermined value.

12. The apparatus of claim 9, wherein the training logic further comprises:

20 a kernel data logic to compute a kernel data based upon the training data;  
a buffer to store a kernel data;  
a value logic to compute the value based on the kernel data.

13. The apparatus of claim 12, wherein the kernel data logic further

25 updates the kernel data in the buffer based on the part of the training data that

corresponds to the eliminated features, and the value logic further updates the value based upon the updated kernel data.

14. The apparatus of claim 12, wherein the kernel data logic further  
5 subtracts a matrix from the kernel data, each component of the matrix comprising a dot product of two of training samples provided by the part of the training data.

15. The apparatus of claim 9, wherein the eliminate logic further comprises a ranking criterion logic to compute a ranking criterion for each feature of the  
10 group based on the value for the each feature.

16. The apparatus of claim 9, wherein the eliminate logic further comprises a feature eliminate logic to eliminate the at least one feature having the minimum ranking criterion from the group.

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17. A machine-readable medium comprising a plurality of instructions, that in response to being executed, result in a computing system:

determining a value for each feature in a group of features provided by a training data;

20 eliminating at least one feature from the group by utilizing the value for each feature in the group; and

updating the value for each feature in the group based on a part of the training data that corresponds to the eliminated feature.

18. The machine-readable medium of claim 17, wherein the training data further comprises a plurality of training samples, each of the training samples corresponding to the group of features.

5           19. The machine-readable of claim 17, wherein the plurality of instructions that result in the computing system determining the value, further result in the computing system:

          computing a kernel data based on the training data;

          computing the value for each feature of the group based on the kernel data;

10       and

          storing the kernel data in a buffer.

          20. The machine-readable of claim 19, wherein the plurality of instructions that result in the computing system computing the kernel data, further result in the  
15       computing system computing a matrix as the kernel data, each component of the matrix comprising a dot product of two of training samples provided by the training data.

          21. The machine-readable of claim 17, wherein the plurality of instructions  
20       that result in the computing system updating the value, further result in the computing system:

          retrieving a kernel data from a buffer;

          updating the kernel data based on the part of the training data that  
          corresponds to the eliminated feature; and

updating the value for each feature of the group based on the updated kernel data.

22. The machine-readable of claim 21, wherein the plurality of instructions  
5 that result in the computing system updating the kernel data, further result in the computing system:

subtracting a matrix from the kernel data, each component of the matrix comprising a dot product of two of training samples provided by the part of the training data that corresponds to the eliminated feature.

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23. The machine-readable of claim 17, wherein the plurality of instructions that result in the computing system eliminating at least one feature, further result in the computing system:

computing a ranking criterion for each feature of the group based on the  
15 value for the each feature;

eliminating the at least feature with the minimum ranking criterion from the group; and

recording the eliminated feature in a feature ranking list.

20 24. The machine-readable of claim 17, wherein the plurality of instructions further result in the computing system:

repeating of eliminating the at least feature from the group and updating the value for each feature of the group until a number of features in the group reaches a predetermined value.